

On page 1, after the previously added paragraph of the specification (the Related Applications section), please add the following heading immediately prior to the paragraph that begins "This invention relates to...":

-- **Field of the Invention** --

E' On page 2, after line 15, please add the following heading immediately prior to the paragraph that begins: "Accordingly, in a first aspect the invention provides...":

-- **Brief Summary of the Invention** --

E'' On page 4 after line 22 after the paragraph that ends "This principle is illustrated in the accompanying Example 8", please inset the following heading and paragraphs:

-- **Brief Description of the Figures**

Figure 1 is an overview of the neurons and transmitters that are known to have a direct influence on the pumping rate of the *C. elegans* pharynx.

Figure 2 shows an example of the detection of enhancers of the pumping rate of the *C. elegans* pharynx, using a fluorescent read-out.

Figure 3 shows an example of the detection of inhibitors of the pumping rate of the *C. elegans* pharynx, using a fluorescent read-out.

Figure 4 shows dose-response curves for the inhibitors tamoxifen, BP554 and pimazide.

E'' Figure 5 shows a dose-response curve for the enhancer clomipramine, showing the toxic effect of DMSO.

Figure 6 shows a dose-response curve for thapsigargin showing the enhancer effect at high concentrations and the inhibitor effect at high concentrations.

Figure 7 illustrates the principle of the movement assay.

Figure 8 illustrates the principles of chemical substrate selection and antagonist selection using the movement screen.

Figure 9 shows the results of a representative movement assay illustrating the change in nematode autofluorescence (y-axis) with time (x-axis).

Figure 10 illustrates the result of an experiment to show the effect of PEG8000 on performance of the pharynx pumping assay. 100 worms (strain HD8) were incubated for 3 hours

in the presence of 0.5 $\mu$ M calcein-AM. They were handled with or without the addition of 0.1% PEG.

Figure 11 illustrates the results of experiment to show the effect of viscosity of the medium on performance of the movement assay.

Figure 12 and Figure 13 illustrate the effect of viscosity of the medium on performance of the movement assay for various *C. elegans* mutants in a comparative study. 100 worms were incubated in a round bottom shaped microtiter plate. OD was measured at 340nm in various viscous media (M9, medium viscosity carboxymethylcellulose and high viscosity carboxymethylcellulose). Measurements were done in triplicate.

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Figure 14 and Figure 15 illustrate the effect of viscosity of the medium on the pharynx pumping screen. N2 + MC denotes wild-type worms in medium containing carboxymethylcellulose.

Figure 16 and Figure 17 illustrate the kinetics of egg laying assays using N2 worms based on detection of chitinase activity using a fluorescent substrate. The assays were carried out in the presence of varying concentrations of clomipramine and fluoxetine, respectively.

Figures 18 to 21 illustrate the effect of compounds of known insecticidal activity on the pharynx pumping rate of *C. elegans*. Fig. 18-Picrotoxin, Fig 19.-Rotenone, Fig 20.-Dieldrin, Fig. 21-Ivermectin. A reduction in the pharynx pumping rate on exposure to insecticide is clearly seen. --

On page 4, before line 23, please add the following heading immediately prior to the paragraph that begins: "The methods of the invention are all performed in a multi-well plate format...":

-- **Detailed Description of the Invention** --

E4  
On page 4, line 28, in the paragraph from line 23-28, please change the word: "through" to the word "throughout".

NT  
On page 30, please delete the paragraph at line 18 through line 19, and replace with the following: